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MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY  
UNITED STATES DEPARTMENT OF AGRICULTURE.

Number 54.

OCTOBER, 1918.

WE BOUGHT, FOR OURSELVES, GENEROUSLY. NOW LET US GIVE, FOR OTHERS, BOUNTIFULLY.

The United War-Work Campaign is under way! In the week beginning November 11 seven great organizations--The Young Men's Christian Association, The Young Women's Christian Association, the National Catholic War Council, the Jewish Welfare Board, the War Camp Community Service, the American Library Association, and the Salvation Army--are to conduct a joint campaign to raise \$170,500,000 to continue their work. This is the largest amount ever asked in a single appeal. The War Department has recognized all of these organizations as accepted instrumentalities through which the men in the ranks are to be assisted in many essential matters of recreation and morale.

The American Library Association's share of this fund is \$3,500,000. To those who are asking why the Association needs more money and more books now when over 3,000,000 volumes have already been given this year by the people of the United States, the answer is that the American Expeditionary force is a reading army, and, more than that, an army which clamors for solid reading: Technical and scientific books, text-books, history--everything of an educational nature. The books given from the "average man's bookshelves" last spring are of little value as educational works now because not up to date. Also, very many of those contributed were fiction; in fact, nearly all that could be used were fiction. For this reason money is needed to procure the new and solid books, books that will help a man to succeed in arms, help him to understand better what he is fighting for and to be a better citizen when he returns. Stories are needed, too, those full of action such as detective stories, tales of the Rockies, and Dumas' works; poetry is needed--Service and Kipling are favorites of the soldier; and of books of history and guide books of France too many can not be provided.

Therefore, give as freely as you can to this fund. The larger your contribution, the better the life for the soldier in whom YOU are interested at the front, and through his sustained morale the quicker the ending of the war.--M. Colcord.

FREDERICK KNAB.

November 2, 1918. Word has just come that Mr. Frederick Knab, Entomological Assistant in the Bureau, and, since the death of Mr. Coquillett, Honorary Custodian of the Diptera in the National Museum, has died. Mr. Knab first entered the Bureau in April, 1906, and during his twelve years' work with us gained a very high rank. His scientific work was of the highest character; his reading was broad, and was facilitated by his knowledge of several foreign languages. He had traveled extensively in his earlier years, and, in fact, while in Brazil some time before he came to the Bureau he probably contracted the obscure disease that eventually ended his life. He was not incapacitated for work, however, until comparatively recently, and during the whole period in which the disease remained dormant and slowly progressed his researches on disease-bearing insects, and especially on mosquitoes, made him one of the foremost workers in this field. He was an artist of very unusual ability, as is especially shown by the wonderful illustrations of mosquito larvae reproduced in the Carnegie Institution Monograph of the Mosquitoes of North and Central America and the West Indies and which, in fact, reached the summit of beauty and perfection. His training in art was received as a young man in Dresden.--L. O. H.

(Over)

STUART C. VINAL.

Stuart C. Vinal, a collaborator of the branch of Cereal and Forage Insect Investigations of the Bureau, who died on September 26 at Boston, Mass., was conducting the biological and ecological studies on the European corn borer for the Massachusetts Agricultural College, in cooperation with this Bureau. It was he who discovered the presence of this pest last summer, and by his indefatigable efforts a very complete knowledge of the seasonal history of the insect has been acquired. These data will be published so soon as they can be prepared for the purpose. During the summer of 1914, before he finished his school work, Mr. Vinal was attached to the Charlottesville field laboratory of the Bureau as Field Assistant, and even at that time showed marked talents for investigational work which his studies on the corn borer have since demonstrated conclusively. He was a conscientious and thorough worker whose modesty and manly qualities endeared him to those of his associates who knew him best.--W. R. W.

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LIBRARY.

Mabel Colcord, Librarian.

New Books.

Watts, Francis. Report on the Agricultural Department, St. Lucia, 1917-1918. Barbados, 1918. 49 p. 4to.

Willcocks, F. C. The insect and related pests of Egypt. v.1. The insect and related pests injurious to the cotton plant. Part 1. The pink bollworm. Cairo, Printing office of the French Institute of Oriental Archaeology, 1916. 339 p., 10 pl. (part colored), 4to. Bibliography.

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A War of Justice causes needed wounds, as does the surgeon's knife.

A Peace of Justice, like antiseptic bandages, will keep out or counteract those malignant germs that, in the one case, infect and destroy the human body, and, in the other, poison and blast the goodwill of men and nations.

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BEE CULTURE.

E. F. Phillips, Apiculturist in Charge.

J. V. Ormond, who has accepted a position for extension work in Arkansas, Missouri, Kansas, and Nebraska, has just left Washington for his new field.

W. A. Smith has been appointed for extension work in Georgia where he will begin work within a few days.

Edward S. Prevost has been appointed for extension work in South Carolina.

Dr. E. F. Phillips and Mr. George S. Demuth will leave for California on November 4, and will return on December 25. The first two weeks of their stay on the Pacific Coast will be spent in an investigation, with the Forest Service, of the beekeeping possibilities of the National Forests in southern California. They will then take part in extension schools for commercial beekeepers at San Diego, Davis, Visalia, and Riverside, as explained in the Monthly Letter for September.

## EXTENSION WORK IN ENTOMOLOGY.

J. A. Hyslop, Entomologist in Charge.

During the past two months the stress of military activities of the Nation has caused the following changes in the personnel of the Extension Entomological Service:

George M. Anderson, formerly assistant to Prof. A. F. Canradi, State entomologist of South Carolina, has been appointed extension entomologist in North Carolina, where he is covering the entire field of economic entomology.

Oscar Barber, formerly engaged in the sweet-potato weevil work in Texas, has been transferred to another branch of the Department's activities.

A. Burr Black, who has been carrying on extension work in the control of insects affecting deciduous fruits in Oregon, resigned from the Bureau's service on September 10, 1918.

Albert E. Booth, who has been carrying on sweet-potato weevil work in Florida, resigned September 28, 1918.

Mancil B. Boyd, also of the sweet-potato weevil work in Florida, resigned September 9, 1918.

Kenneth E. Bragdon of the same service resigned September 30, 1918.

Charles W. Curtin, engaged in the control of insects affecting cereal and forage crops in South Carolina, resigned to enter the Army, October 15, 1918.

Harold M. Fort, who has been carrying on similar work in the State of Missouri, resigned to enter the military service on September 13, 1918.

F. Vernon Griffith, who has been carrying on sweet-potato weevil work in Mississippi, resigned August 9, 1918.

J. G. Griffith, who has been doing extension work in the control of cereal and forage insects in New Mexico, resigned September 30, 1918.

Clyde C. Hamilton, engaged in deciduous-fruit insect control work in Missouri, resigned July 31, 1918, to accept a position in the Missouri State service.

Marshall Hertig, who has been connected with the extension work in the control of cereal and forage insects in Minnesota, resigned July 22, 1918, to enter the Army.

G. J. Hucker, carrying on extension work in the control of cereal and forage insects in Nebraska, resigned July 20, 1918, to enter the Army.

Montfort Hull, connected with the sweet-potato weevil work in Louisiana, resigned August 31, 1918.

H. E. Jaques, connected with the cereal and forage insect extension work in Iowa, resigned August 31, 1918.

M. E. Kimsey, formerly connected with the cereal and forage insect control work in Arizona, has been transferred to the pink bollworm work in Texas.

J. M. Lowe, connected with the sweet-potato weevil work in Texas, resigned August 31, 1918, to enter the military service.

Q. S. Lowry, formerly carrying on truck-crop insect control work in connection with the Massachusetts extension service, has been given charge of all economic entomological extension work in the State.

S. E. McClendon, who is carrying on extension work in the control of stored-product insects in Georgia, has changed his headquarters from Hawkinsville to Athens.

H. L. McMurray has been appointed to carry on extension work in beekeeping in Minnesota and Wisconsin.

George H. Miller, formerly connected with the Office of Farm Management of the Department, has been transferred to the Bureau of Entomology and is carrying on extension work in the control of deciduous-fruit insects in New York State with headquarters at Albion.

J. E. Morrison, who has been carrying on cereal and forage insect control work in the State of Colorado, has resigned to accept a position as county agent in that State.

Harvey H. Nininger has been appointed to carry on extension work in the control of cereal and forage insects in South Dakota.

H. B. Peirson, connected with the oriental peach-moth work, resigned September 11, 1918.

Eugene L. Prizer, who has been assisting in the control of citrus-fruit insects in California, resigned August 29, 1918.

Edward S. Prevost has been appointed to carry on extension work in beekeeping in South Carolina.

Max W. Reeher, who has been carrying on cereal and forage insect extension work in Oregon has entered the military service.

Frazier Rogers, connected with the sweet-potato weevil work in Florida, resigned September 19, 1918.

Marvin B. Rounds has been appointed to assist in the extension work in the control of citrus-fruit insects in California.

Douglas R. Royter, connected with the sweet-potato weevil work in Texas, resigned September 30, 1918, to enter the military service.

J. W. Sauer, connected with the sweet-potato weevil work in Texas, resigned August 31, 1918.

H. A. Scullen has been appointed to carry on extension work in beekeeping in the Pacific Northwest.

H. L. Seamans, connected with the cereal and forage insect control work in Montana, resigned July 31, 1918, to enter the military service.

J. Smith has been appointed to carry on beekeeping extension work in California.

C. E. Trimble, connected with the sweet-potato weevil work, resigned August 10, 1918.

G. H. Vansell, formerly carrying on extension work in beekeeping in South Carolina, resigned September 10, 1918.

H. L. Weatherby, connected with the sweet-potato weevil work in Alabama, resigned September 7, 1918.

E. E. Wehr has been appointed to assist in the extension work in the control of insects affecting domestic animals.

W. D. Whitcomb, associated with the oriental peach-moth work, has resigned to enter the military service.

#### SOUTHERN FIELD-CROP INSECT INVESTIGATIONS.

W. Dwight Pierce, Entomologist Acting in Charge.

J. U. Gilmore has been granted an indefinite furlough, having entered an officers' training camp.

J. L. Webb has returned to Washington from Topaz, Cal., where he has been making investigations of Tabanidae in the Antelope Valley of California.

E. S. Tucker and H. W. Lee have been working out the lines of infestation of the boll weevil. Mr. Tucker was assigned that portion of the line from the Mississippi River west in cooperation with various State entomologists, and Mr. Lee the portion of the line east of the Mississippi.

Lieut. E. H. Gibson, formerly of the Bureau of Entomology, has been promoted to captain, in the Sanitary Corps.

Dr. J. G. Needham of Cornell University, Ithaca, N. Y., visited the Bureau of Entomology during the month.

#### CEREAL AND FORAGE INSECT INVESTIGATIONS.

W. R. Walton, Entomologist in Charge.

C. W. Creel visited several points in Nevada during the month of October for the purpose of investigating grasshopper and aphid injuries to forage crops in that State.



J. E. Morrison and J. G. Griffith, recently employed as special field agents in extension entomology for the States of Colorado and New Mexico, respectively, have resigned from the service to enter other work.

Harvey H. Nininger, recently employed as instructor in biology at Pomona College, California, has been appointed special field agent in extension entomology, and assigned to grasshopper work in South Dakota. He reported for duty October 21.

M. E. Kimsey, formerly employed as special field agent in extension entomology for the State of Arizona, has been transferred to the pink bollworm control work under the Federal Horticultural Board, effective October 12.

F. R. Cole, of the Forest Grove, Oreg., field laboratory, recently visited British Columbia at the request of the Canadian Government, for the purpose of determining dipterous material in the collections of the Canadian Department of Agriculture.

#### TRUCK-CROP INSECT INVESTIGATIONS.

F. H. Chittenden, Entomologist in Charge.

In connection with the program for the eradication of the sweet-potato weevil in Baker County, Fla., it has been decided to establish a research station at Daytona, Fla., since the necessary abundance of Cylas formicarius must be assured for experimental purposes independently of the supply available at Macclenny. B. L. Boyden, who has been associated with the experimental work at Macclenny, will be in charge of this new station.

J. E. Graf, entomologist in charge of field work on the sweet-potato weevil, is visiting the field stations under that project. On the completion of his investigations he will visit Washington for conference.

Miss Mabel Connell, who has been assisting in truck-crop insect investigations during the summer, has resigned to enter bacteriological work with the Public Health Service.

M. R. Smith, who has been working with insect transmission of cucurbit diseases at Plymouth, Ind., has been assigned to winter work on the sweet-potato weevil at the Kingsville, Tex., laboratory.

M. J. Kerr, assistant entomological inspector on sweet-potato weevil work in Louisiana, has resigned.

R. A. Epperson, who has been engaged in inspection work on the sweet-potato weevil in Alabama, has been temporarily transferred to work on the pink bollworm in Texas.

M. H. Arnold, who has been assisting in the sweet-potato weevil survey in Mississippi, has also entered work on the pink bollworm in Texas for the winter.

K. L. Cockerham, who is experimenting with heat control of the sweet-potato weevil in Mississippi, reports promising results from some of his recent experiments against the weevil in stored tubers.

F. M. Wadley has closed the Wichita, Kans., laboratory and has established headquarters at Muscatine, Iowa.

#### DECIDUOUS-FRUIT INSECT INVESTIGATIONS.

A. L. Quaintance, Entomologist in Charge.

H. K. Plank, in charge of the Bureau's investigations of cranberry insects in Washington State, made a trip to Grand Junction, Colo., to go over results of work with the codling moth in that region and later visited the cranberry bogs of Massachusetts and Long Island. He has now returned to Washington, D. C.

The Bureau's laboratory at Brownwood, Tex., has been discontinued for the reason that Mr. A. I. Fabis, in charge of pecan insect investigations at that point, has entered the Army service.

E. W. Scott, in charge of the Vienna, Va., laboratory of the Insecticide Board, has been granted an indefinite furlough and has accepted a commission as first lieutenant in the Quartermaster Corps of the Army and will shortly be sent to France.

Dr. A. L. Quaintance has completed his tour of inspection of the various field laboratories attached to this office and has now returned to Washington.

#### FEDERAL HORTICULTURAL BOARD.

C. L. Marlatt, Chairman.

The safeguarding of the outlaw cotton grown in the pink bollworm zone No. 2 in Texas is being effected by agreements entered into by all growers of cotton, giving the State, in cooperation with this Department, supervision over the harvesting and disposition of the crop.

The fact that the pink bollworm can feed on various alternative food plants, including okra, various species of Hibiscus, and related plants has been fully confirmed by the work of the research station in the Laguna of Mexico. The examination of such possible alternative food plants throughout the infested district of last year in Texas has not, however, developed a single instance of infestation with *Pectinophora*, and a recent report indicates that the examination during this month of over 15,000 individual cotton plants, volunteer and planted, has revealed no evidence of infestation. The possibility that complete extermination, therefore, was effected by the work of last fall and winter is being strengthened constantly.

A final conference was held October 18 on the subject of further restriction on the entry of nursery stock and other plants, and of seeds for propagation, and a new quarantine and regulations will be prepared shortly. It is proposed under this quarantine to limit importations substantially to field, vegetable, and flower seeds, certain bulbs, rose stocks, and fruit stocks, cuttings, and scions. These classes of plants are represented to be essential, for a period at least, to the floriculture and horticulture of this country. This action will amount to a practically complete exclusion of all finished plants--the bulk of the nursery stock as hitherto understood--and in addition all the ordinary bedding and other greenhouse or field-grown herbaceous plants.

As a result of a conference on the oriental peach moth and at the earnest request of the various States in which this insect has obtained a foothold, it is proposed to call a hearing for December 17 for a general discussion of this subject as preliminary to whatever quarantine action may be deemed advisable.

The European potato wart, which was the subject of one of the first quarantines under the plant quarantine act, has appeared in a small district in eastern Pennsylvania. Potatoes are grown in this district in small gardens only and there is no commercial production and therefore little likelihood of other than local spread. The source of this infestation has been traced to the distribution of European potatoes of inferior quality in 1912 before the passage of the plant quarantine act of August 20 of that year. Since the passage of that act no potatoes have come to America from European countries where this disease is known to exist. The Department of Agriculture and the Federal Horticultural Board are in active cooperation with the State Economic Zoologist, J. G. Sanders, in the surveys and in the establishment of necessary restrictive measures to prevent infected material from moving out of the district. Radical steps will be taken to stamp out this potato disease.

Twelve of the Board's inspectors are now in the military or naval service of the United States, namely: W. W. Decell, J. A. Dew, E. L. Diven, W. S. Hough, Herbert Lahr, M. I. Miller, E. J. O'Dowd, R. W. Reeves, Torbert Slack, J. E. Webb, C. A. Weigel, and J. C. Woodward.